The Great Grid Upgrade

Sea Link

Sea Link

Volume 7: Other Documents

Document Number 7.5.4.2 Outline Onshore Overarching Written Scheme of Investigation (OWSI) – Kent

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Executive Summary

Ex1.1.1 This Outline Onshore Overarching Written Scheme of Investigation has been prepared on behalf of National Grid to support the application for a Development Consent Order (DCO).

Ex1.1.2 This Outline Onshore Overarching Written Scheme of Investigation sets out the scope, guiding principles and methods for the planning and implementation of further archaeological evaluation and mitigation works that are required within the Order Limits for the Kent Onshore Scheme. This further evaluation and mitigation works have been identified following analysis of the results of desk-based research, archaeological geophysical survey, analysis of aerial photography and LiDAR data, and trial trench evaluation.

Ex1.1.3 The Outline Onshore Overarching Written Scheme of Investigation details the different methods of further evaluation and mitigation, the successful completion of which will reduce the effects of the Kent Onshore Scheme on the cultural heritage resource. Further evaluation will be undertaken on areas of planned intrusive activities where no archaeological evaluation has yet been possible. Archaeological mitigation measures will comprise either the protection and preservation of archaeological remains, where practicable, or, where remains cannot be preserved, a structured programme of archaeological investigation to mitigate the loss.

Ex1.1.4 Further, this Outline Onshore Overarching Written Scheme of Investigation presents the approach to consultation and approvals for the stages of evaluation and mitigation, and details the framework to deliver the stages of investigation and following post-excavation assessment, analysis, publication and archive processes.

Ex1.1.5 This Outline Onshore Overarching Written Scheme of Investigation will be agreed with the relevant cultural heritage statutory consultee, comprising the Archaeological Advisor for Kent County Council, and is submitted with the DCO as a draft document. Once all measures are agreed with the relevant cultural heritage statutory consultees, the final Onshore Overarching Written Scheme of Investigation will be submitted to support the DCO. The implementation of the final, agreed Onshore Overarching Written Scheme of Investigation will be secured by Requirement 14 in Schedule 3 of the draft DCO.

1. Introduction

1.1 Overview

1.1.1 This document presents the Outline Onshore Overarching Written Scheme of Investigation (OWSI) which sets out the scope and guiding principles for the planning and implementation of further evaluation surveys and proposed archaeological mitigation works to be undertaken in relation to the Development Consent Order (DCO) application for Sea Link (hereafter referred to as 'the Proposed Project'), specifically for the Kent Onshore Scheme.

1.2 The Proposed Project

1.2.1 The Proposed Project is a proposal by National Grid Electricity Transmission plc (hereafter referred to as National Grid) to reinforce the transmission network in the South East and East Anglia. The Proposed Project is required to accommodate additional power flows generated from renewable and low carbon generation, as well as accommodating additional new interconnection with mainland Europe.

1.2.2 National Grid owns, builds and maintains the electricity transmission network in England and Wales. Under the Electricity Act 1989, National Grid holds a transmission licence under which it is required to develop and maintain an efficient, coordinated, and economic electricity transmission system.

1.2.3 This would be achieved by reinforcing the network with a High Voltage Direct Current (HVDC) Link between the proposed Friston substation in the Sizewell area of Suffolk and the existing Richborough to Canterbury 400kV overhead line close to Richborough in Kent. National Grid is also required, under Section 38 of the Electricity Act 1989, to comply with the provisions of Schedule 9 of the Act. Schedule 9 requires licence holders, in the formulation of proposals to transmit electricity, to:

- Schedule 9(1)(a) *'…have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest;'* and
- Schedule 9(1)(b) *'…do what [it] reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects'.*

1.2.4 The Proposed Project would comprise the following elements:

The Suffolk Onshore Scheme

- A connection from the existing transmission network via Friston Substation, including the substation itself. Friston Substation already has development consent as part of other third-party projects. If Friston Substation has already been constructed under another consent, only a connection into the substation would be constructed as part of the Proposed Project.

- A high voltage alternating current (HVAC) underground cable of approximately 1.9 km in length between the proposed Friston Substation and a proposed converter station (below).
- A 2 GW high voltage direct current (HVDC) converter station (including permanent access from the B1121 and a new bridge over the River Fromus) up to 26 m high plus external equipment (such as lightning protection, safety rails for maintenance works, ventilation equipment, aerials, similar small scale operational plant, or other roof treatment) near Saxmundham.
- A HVDC underground cable connection of approximately 10 km in length between the proposed converter station near Saxmundham, and a Transition Joint Bay (TJB) approximately 900 m inshore from a landfall point (below) where the cable transitions from onshore to offshore technology.
- A landfall on the Suffolk coast (between Aldeburgh and Thorpeness).

The Offshore Scheme

- Approximately 122 km of subsea HVDC cable, running between the Suffolk landfall location (between Aldeburgh and Thorpeness), and the Kent landfall location at Pegwell Bay.

The Kent Onshore Scheme

- A landfall point on the Kent coast at Pegwell Bay.
- A TJB approximately 800 m inshore to transition from offshore HVDC cable to onshore HVDC cable, before continuing underground for approximately 1.7 km to a new converter station (below).
- A 2 GW HVDC converter station (including a new permanent access off the A256), up to 28 m high plus external equipment such as lightning protection, safety rails for maintenance works, ventilation equipment, aerials, and similar small scale operational plant near Minster. A new substation would be located immediately adjacent.
- Removal of approximately 2.2 km of existing HVAC overhead line, and installation of two sections of new HVAC overhead line, together totalling approximately 3.5 km, each connecting from the substation near Minster and the existing Richborough to Canterbury overhead line.

1.2.5 The Proposed Project also includes modifications to sections of existing overhead lines in Suffolk (only if Friston Substation is not built pursuant to another consent) and Kent, diversions of third-party assets, and land drainage from the construction and operational footprint. It also includes opportunities for environmental mitigation and compensation. The construction phase will involve various temporary construction activities including overhead line diversions, use of temporary towers or masts, working areas for construction equipment and machinery, site offices, parking spaces, storage, accesses, bellmouths, and haul roads, as well as watercourse crossings and the diversion of Public Rights of Way (PRoWs) and other ancillary operations.

1.3 Purpose and Structure of the Outline Onshore OWSI

1.3.1 The purpose of the Outline Onshore OWSI is to set out the scope and methods proposed to mitigate effects of the Proposed Project on heritage assets within the Order Limits, to secure compliance with relevant national and local planning policies.

1.3.2 This document describes the principles to be applied in undertaking archaeological evaluation and mitigation works including strategies for the protection of archaeological remains, and for the investigation, recording and analysis of archaeological remains that would be impacted as a result of construction of the Proposed Project.

1.3.3 The Onshore OWSI is structured as follows:

- Section 1: presents an overview of this document, including the purpose and structure of the Onshore OWSI including aims and objectives, and the roles and responsibilities of each party to ensure the implementation of the Onshore OWSI;
- Section 2: presents an overview of the archaeological baseline and includes a summary of archaeological surveys that have been carried out for the Proposed Project;
- Section 3: describes the archaeological evaluation surveys required to be undertaken within the Order Limits;
- Section 4: describes the potential archaeological mitigation strategies that may be deployed within the Order Limits;
- Section 5: sets out the protocols for unexpected archaeological discoveries;
- Section 6: outlines the protocols for reporting and publication, including archiving requirements;
- Section 7: sets out the requirement for and outline structure for Site-Specific Written Schemes of Investigation (SSWSIs);
- Section 8: sets out the protocols for monitoring and approvals;
- Section 9: outlines the requirements for public outreach and community engagement; and
- Section 10: provides a general overview of the Health and Safety requirements of the Proposed Project.

1.4 Status of this Document

1.4.1 This Outline Onshore OWSI has been prepared for submission alongside **Application Documents 6.2.1.1 – 6.2.5.3** as a draft document to support the application for development consent.

1.4.2 This document has been compiled based on the interim results of the trial trench evaluation undertaken within the Order Limits. Upon review and approval of the final fieldwork report which is to be finalised post-DCO submission, this Outline Onshore OWSI will be reviewed and updated where required, and a final Onshore OWSI will be issued post-DCO submission in accordance with Requirement 14 contained in Schedule 3 of the draft DCO (**Application Document 3.1**).

1.4.3 This Outline Onshore OWSI has been agreed in principle with the Archaeological Advisor for Kent County Council (KCCAA). The Onshore OWSI will be updated in agreement with the KCCAA and will be provided to the KCCAA for approval.

1.5 Roles and Responsibilities

1.5.1 This Outline Onshore OWSI has been prepared for submission alongside the Environmental Statement (ES) as a draft document.

1.5.2 National Grid (the Applicant for the Proposed Project) will establish the appropriate roles and responsibilities for site staff as set out in **Application Document 7.5.3 Outline Onshore Construction Environmental Management Plan (CEMP)**.

1.5.3 The KCCAA will be responsible for confirming that the requirements of the DCO are met, in accordance with any conditions relating to archaeology. The KCCAA will also be responsible for final sign off and approval of all mitigation measures.

1.5.4 National Grid will appoint an Archaeological Clerk of Works (ACoW) for the Proposed Project. The ACoW, working on behalf of National Grid, will be responsible for liaising with the KCCAA to ensure that evaluation and mitigation measures are correctly implemented, monitored, and maintained during the construction phase of the works. This will include monitoring the Archaeological Contractor's work to ensure compliance with the SSWSIs and this Onshore OWSI and monitoring the specific construction activities to ensure compliance with all archaeological mitigation requirements, including protection measures, set out in **Application Document 7.5.3 Outline Onshore CEMP.**

1.5.5 National Grid will appoint an Archaeological Contractor to carry out the archaeological evaluation and mitigation fieldwork. The Archaeological Contractor will be responsible for the production of SSWSIs for each stage of archaeological investigation (refer to Section 7).

2. Archaeological and Historical Background

2.1 Introduction

2.1.1 A detailed baseline for the Proposed Project has been produced as part of the DCO application (**Application Document 6.3.3.3.A ES Appendix 3.3.A Cultural Heritage Baseline Report**). This has been informed through a review of previously recorded heritage assets, as well as additional surveys. The results of these surveys has been synthesised in **Application Document 6.3.3.3.A ES Appendix 3.3.A Cultural Heritage Baseline Report** and **Application Document 6.2.3.3 Part 3 Kent Chapter 3 Cultural Heritage**. Full details of the surveys submitted as part of the DCO application are included in the following appendices:

- **Application Document 6.3.3.3.D ES Appendix 3.3.D – Geophysical Survey Report**;
- **Application Document 6.3.3.3.E ES Appendix 3.3.E – Aerial Photographic and LiDAR Report**;
- **Application Document 6.3.3.3.F ES Appendix 3.3.F – Archaeological Evaluation Trial Trenching Report (Draft)**; and
- **Application Document 6.3.3.3.G ES Appendix 3.3.G – Geo-archaeological Desk-Based Assessment**.

2.1.2 This section presents a summary of the existing baseline.

2.2 Site Location, Topography, and Geology

2.2.1 The Proposed Project is located on land that was formally a marine environment on the southern edge of the Isle of Thanet, with the Kent Onshore Scheme running from Pegwell Bay in the east (NGR TR 34517 63625) to the Converter Station and Substation in Minster Marshes in the west (NGR TR 32224 63035). In the east, the Study Area lies between sea level and 5 m Above Ordnance Datum (AOD) as it rises out of Pegwell Bay to the Sandwich Road area, from where it rises to a maximum height of approximately 15 m AOD as it crosses the line of the A256 on the Ebbsfleet Peninsula near Cottingham Hill. The Study Area then drops again as it heads west towards the Minster Marshes where the average ground level is approximately 3 m AOD.

2.2.2 While the solid geology of the land to the north consist of chalk (Andrews, Booth, Fitzpatrick, & Walsh, 2015), the solid geology of the Order Limits consists of Thanet Formation deposits comprising sand, silt, and clay laid down in the Palaeogene Period between 59.2 and 56 million years ago (British Geological Survey, 2024). The drift geology at the eastern end of the Study Area consists of Beach and Tidal Flat Deposits of sand, silts, and clays formed between the 2.588 million years ago and the present, while the western end consists of Tidal Flat Deposits of clay and silt laid down over the last 11,000 years during the silting up of the Wantsum Channel and formation of the Minster Marshes. The drift geology of the central area, where the land rises to form the

headland known as the Ebbsfleet Peninsula along which the A256 now runs, is formed by Thanet Sands dating to the late Paleocene.

2.2.3 Land use within the Study Area is almost entirely agricultural, with the higher ground of the Ebbsfleet Peninsula dominated by arable agriculture, while the lower land of the Minister Marshes is used for arable and pastoral activities. The land to the east, where the Study Area falls away towards Pegwell Bay, includes a mix of arable land as well as a large area used for recreation (two golf courses are location in the area). The varying topography has been key in determining land use in earlier periods, with the higher ground of the Ebbsfleet Peninsula representing a spur on the south side of the Isle of Thanet surrounded by a marine environment from the early prehistoric period though to the medieval period. This consisted of the Wantsum Channel to the west and south, which cut the Isle of Thanet off from the rest of Kent, and the North Sea/English Channel to the east.

2.2.4 Historic Landscape Characterisation data provided by Kent County Council shows the Study Area falling into three categories. The elevated area of the Ebbsfleet Peninsula consists of 'Field Patterns Type 1.14: Fields Predominantly Bounded by Tracks, Roads, and Other Rights of Way'. To the south and west, the Ebbsfleet Peninsula drops away to land defined as 'Reclaimed Marshland Type 5.4: Rectilinear Enclosures', while to the east the land is defined as 'Reclaimed Marshland Type 5.3: Small Rectilinear Enclosures'. The eastern end of the Order Limits, near the coastline, are categorised as 'Coastal Type 8.9: Dunes' and 'Coastal Type 8.7: Mud Flats', with other types within the Study Area limited to small pockets of 'Extractive and Other Industry Type 12.5: Reservoirs and Water Treatment' and 'Recreation Type 11.2: Golf Courses'.

2.3 Archaeological Baseline

2.3.1 Two Study Areas are discussed in this section, a 500 m Study Area around the Kent Onshore Scheme Boundary and a 2 km Study area around the above ground infrastructure. Further details are provided in **Application Document 6.3.3.3.A ES Appendix 3.3.A Cultural Heritage Baseline Report**.

Designated Assets

2.3.2 There are no designated heritage assets located within the Order Limits.

2.3.3 There are no World Heritage Sites, Registered Parks and Gardens, Registered Battlefields, or Protected Wrecks located within the Study Area.

2.3.4 A total of two scheduled monuments and 40 listed buildings are recorded within the 500 m Study Area.

2.3.5 A further two scheduled monuments and 45 listed buildings are recorded within the 2 km Study Area from the above ground infrastructure associated with the Proposed Project, which has been adopted for assessing impacts on setting.

Scheduled Monuments

2.3.6 All scheduled monuments are deemed to be of high value as nationally important heritage assets.

2.3.7 There are two scheduled monuments within the 500 m Study Area, comprising of:

- Richborough Saxon Shore Fort, Roman Port, and Associated Remains (NHLE 1014642). Located approximately 0.15 km south of the Order Limits.
- Monastic Grange and Pre-Conquest Nunnery at Minster (NHLE 1016850). Located approximately 0.21 km north of the Order Limits.

2.3.8 There are two scheduled monuments within the 2 km Study Area from the above ground infrastructure adopted for setting impacts. These consist of:

- Richborough Saxon Shore Fort, Roman Port, and Associated Remains (NHLE 1014642). Located approximately 1.58 km south of the overhead connection works.
- Monastic Grange and Pre-Conquest Nunnery at Minster (NHLE 1016850). Located approximately 1.45 km north of the Minster Converter Station and Substation site.

Listed Buildings

2.3.9 A total of 40 listed buildings are recorded within the 500 m Study Area, of which three are Grade I listed, and 37 are Grade II listed.

2.3.10 A total of 45 listed buildings are recorded within the 2 km Study Area from the above ground infrastructure adopted for assessing impacts on setting. These consist of two Grade I listed buildings, one Grade II* listed building, and 42 are Grade II listed buildings.

Non-Designated Assets

2.3.11 A review of previously recorded assets on the Kent Historic Environment Record (HER) recorded a total of 72 assets within the Order Limits. The majority of these are features relating to the complex multiperiod site recorded on the Ebbsfleet Peninsula that was partially excavated as part of the East Kent Access 2 (EKA2) scheme, a major road construction project around the Isle of Thanet, with the geophysical survey and evaluation trenching undertaken for the Proposed Project demonstrating that the features excavated for the construction of the A256 continue on the eastern and western side of the road. However, other previously recorded assets within the Order Limits include remains of features associated with medieval and post-medieval reclamation and land management in the former Wantsum Channel, agricultural activities, chance finds from various periods, and 20th century military remains.

2.3.12 Previously recorded non-designated assets recorded within the Order Limits consist of (from east to west):

- Second World War beach scaffolding (MWX43182);
- Second World War wire entanglements (MWX43183);
- Second World War anti-tank pimples (TR 36 SW 280);
- Second World War anti-tank blocks (MWX43185);
- Second World War probable stop line (MWX43387);
- the Boarded Groin (TR SW 203);
- Second World War anti-aircraft battery at St Augustine's Golf Course (MWX43192);
- multi period complex on the Ebbsfleet Peninsula straddling the A256;

- Weatherlees Sidings and Richborough Port (TR 36 SW 414; MWX43282; MWX43195);
- probable Second World War Stop Line (Minster Marshes) (MWX43372);
- Second World War Enhanced Drainage, Minster Marshes (MWX43342);
- Abbot's Walls (TR 26 SE 148);
- possible Flood Bank, Ash Levels (MWX43343);
- Enclosure and Boundary Features, Ash Levels (MWX43368, MWX43373);
- Second World War Enhanced Drainage, Ash Levels (MWX43337);
- Stack Stances, Ash Levels (MWX43344; MWX43352; MWX43356; MWX43357; MWX43359; MWX43360; MWX43363; MWX43364; MWX43376; MWX43377; MWX43378; MWX43381); and
- former Wantsum Channel and Associated Geo-Archaeological Deposits.

2.3.13 The largest concentration of non-designated assets identified are on the Ebbsfleet Peninsula, with a multi-phase complex straddling the A256. As noted above, these features were previously recorded during the works associated with the construction of the A256, and additional surveys undertaken as part of the Proposed Project, including geophysical survey and evaluation trenching, confirmed that the multi-period site continued on both sides of the A256 and into the Order Limits. These remains, which included continuations of trackways, ditches, and enclosures, as well as Bronze Age burial mounds and later inhumations, confirmed the survival of remains throughout the Ebbsfleet Peninsula area. While these remains are not designated, stakeholders have highlighted they are considered to be of schedulable quality and as such they are deemed to be of high value (sensitivity) in the assessment.

2.3.14 Features in the Minster Marshes were less evident on the geophysical survey, and the evaluation trenching also identified limited evidence of activity with the deposits encountered largely associated with depositional processes linked to the reclamation of the former Wantsum Channel. The majority of previously recorded assets in this area date to the medieval and post-medieval periods, and include drainage works such as the Abbot's Wall (TR 26 SE 148), and possible flood banks in the Ash Levels (MWX43343). In the majority of cases, the full extent and original form of these features is not well understood due to a lack of fieldwork or intrusive investigations. Furthermore, many appear to have been subject to later remodelling and enhancement as part of the ongoing process of drainage and protection of the agricultural land in the Minster Marshes and Ash Levels from flooding. However, consultation with stakeholders has noted that they are considered to be of regional importance and as such they considered to be medium heritage value.

2.3.15 Evidence of post-medieval agricultural land use includes field boundaries (MWX43368) as well as haystack stances (MWX43335; MWX43344; MWX43352; MWX43353; MWX43356; MWX43357; MWX43359; MWX43360; MWX43363; MWX43364; MWX43376; MWX43377; MWX43378; MWX43381), suggesting a mixture of arable and pastoral activities taking place. While these features represent an important part of the history and development of land use in the area, they are considered to be of local importance and therefore of low heritage value.

2.3.16 The later post-medieval development of the region's infrastructure, as well as the conflicts of the 20th century, are also well represented within the Order Limits. Remains

linked to the area's infrastructure include the Deal Branch Line (TR 35 NW 800) which are still operational, and runs through the Minster Marshes area. Other assets include the later 20th century hoverport terminal site, which is located on the coast near Pegwell Bay (TR 36 SE 714). These assets are considered to be of low heritage value.

2.3.17 Remains associated with the conflicts of the 20th century include a number of defensive features, as well as the Richborough Port complex, and remains associated with bombing. Previously recorded assets on the coastline around Pegwell Bay include beach scaffolding (MWX43182), as well as anti-tank obstacles (MWX43185), a possible stop line (MWX43387), and remains of an anti-aircraft battery (MWX43192). Further evidence of military defences have been recorded inland in the Minster Marshes and Ash Levels and include areas of enhanced drainage (MWX43337; MWX43342) and possible 'stop lines' (MWX4372), all of which appear to have been relatively short-lived features and backfilled at the end of the Second World War.

2.3.18 The military assets associated with the early 20th century military infrastructure include the northern limits of the Richborough Port complex (TR 36 SW 414), with a small element of the former Weatherlees Railway Siding falling within the Order Limits (MWX43282), while other features Second World War include backfilled bomb craters recorded on aerial photographs (MWX43355).

2.3.19 While a limited number of Second World War defences in the wider landscape have been listed due to their rarity, including anti-tank pimples and cylinders at Pegwell Bay (HNLE 1413803), the features that have been recorded within the Order Limits are either poorly preserved or of a type frequently found in the area. As a result, the military remains within the Order Limits are considered to be or low or medium heritage value.

2.4 Regional Research Frameworks and Agendas

2.4.1 A South East Research Framework (SERF) is currently being developed to identify what is currently known about the historic environment of the south east, and develop a list of gaps in current knowledge/understanding. This will result in the production of a research agenda and strategy for the future.

2.4.2 As the SERF is currently in preparation, potential research questions will be developed with stakeholders including Kent County Council and Historic England as the mitigation strategy is developed. However, current possible questions include:

- formation, development, and reclamation of the Wantsum Channel; and
- establishment, development and abandonment of the Ebbsfleet Peninsula.

3. Scope of Archaeological Evaluation Surveys

3.1 Overview

3.1.1 A number of archaeological surveys have been undertaken as part of the DCO process to inform the assessment reported in **Application Document 6.2.3.3 Part 3 Kent Chapter 3 Cultural Heritage**. This included a review of aerial photography and LiDAR data (**Application Document 6.3.3.3.E ES Appendix 3.3.E – Aerial Photographic and LiDAR Report**), geophysical survey (**Application Document 6.3.3.3.D ES Appendix 3.3.D – Geophysical Survey Report**), evaluation trenching (**Application Document 6.3.3.3.F ES Appendix 3.3.F – Archaeological Evaluation Trial Trenching Report (Draft)**), and a geo-archaeological assessment of the former Wantsum Channel where the proposed Minster Converter Station, Substation, and Overhead Line (OHL) would be located (**Application Document 6.3.3.3.G ES Appendix 3.3.G – Geo-archaeological Desk Based Assessment**).

3.1.2 A limited number of areas of the Order Limits were not examined by the geophysical survey and evaluation trenching, for example due to land access not being granted or ground conditions not being suitable, and these areas may require evaluating once the detailed design is agreed to enable a mitigation plan to be developed and agreed with the KCCAA.

3.1.3 All archaeological evaluation surveys will be carried out in accordance with this Onshore OWSI, the approved SSWSI and any further specifications approved by the KCCAA. The works will be undertaken in accordance with the guidance provided by Chartered Institute for Archaeologists (CIfA), including the Code of Conduct (Chartered Institute for Archaeologists , 2022), the Universal Guidance for Archaeological Field Evaluation (CIfA, 2023), the Standard and Guidance for Archaeological Field Evaluation (Chartered Institute for Archaeologists , 2014), and other current and relevant good practice and standards and guidance including the Kent Heritage Conservation Strategy (KCC 2022).

3.2 Geophysical Survey

3.2.1 The majority of the Order Limits have been subject to geophysical survey, with only limited areas not surveyed due to access or changes in the Order Limits. Subject to access agreements, geophysical survey of any fields and land parcels not covered by the existing survey may be proposed in the first instance.

3.2.2 Following the completion of the geophysical survey, further evaluation surveys (such as trial trenching) may be required. The scope of any additional archaeological evaluation required will be agreed with the KCCAA and set out in a SSWSI to be produced by the Archaeological Contractor.

3.2.3 Following the completion of all required archaeological evaluation surveys, archaeological mitigation measures may be required. Mitigation measures may comprise an archaeological watching brief during construction; archaeological strip, map and record; or preservation in-situ through avoidance. A preliminary methodology for potential mitigation measures that may be required is set out below in Section 4.

Aims and Objectives

3.2.4 The general objectives of the geophysical survey are:

- to investigate the archaeological potential of the cable corridor;
- to assess the presence/absence of potential archaeological anomalies;
- to determine the level of risk that the archaeological resource would present to the cable corridor option;
- to inform the emerging design; and
- to inform the scope of further evaluation and/or mitigation strategies.

3.3 Trial Trench Evaluation Scope

3.3.1 Fields and land parcels not previously examined by evaluation trenching may be subject to trial trenching. The number and layout of the trenches will be agreed with the KCCAA.

3.3.2 A SSWSI (refer to Section 7) will be required, setting out the full scope and methodology of this survey. The SSWSI will be prepared by the Archaeological Contractor and agreed with the KCCAA.

3.3.3 Following the completion of evaluation surveys, mitigation measures may be required. Mitigation measures could include archaeological excavation, archaeological strip, map and record, an archaeological watching brief, or preservation in-situ. A preliminary methodology for the potential mitigation measures is set out below in Section 4.

Aims and Objectives

General Aims

3.3.4 The general aims of the archaeological trial trench evaluation are to:

- provide additional information on the archaeological potential; and
- inform the requirement for and scope of any archaeological mitigation works that may be required.

General Objectives

3.3.5 In order to achieve the above aims, the general objectives of the archaeological trial trenching are to:

- test the results of the geophysical survey;
- confirm the presence or absence of surviving archaeological remains within the Order Limits;
- determine the location, nature, extent, date, condition, state of preservation, significance and complexity of any archaeological remains and palaeoenvironmental sequences;
- determine the likely range, quality and quantity of artefactual and environmental evidence present;

- interpret the archaeological remains within their local, regional and national archaeological context; and
- make available information about the archaeological resource within the Order Limits by reporting on the results of the archaeological trial trenching.

4. Outline Scope of Archaeological Mitigation Measures

4.1 General Principles

4.1.1 The Proposed Project has been designed to mitigate impacts upon heritage assets where possible. Heritage buffer areas have been incorporated into the Proposed Project design to enable preservation in-situ of potentially significant archaeological remains identified as part of the assessment through methods including geophysical survey and evaluation excavation.

4.1.2 Archaeological work is intended to:

- mitigate loss of archaeological interest of at-risk heritage assets; and
- inform planning of non-archaeological (i.e. avoidance and design) mitigation.

4.1.3 All archaeological mitigation will be proportionate to the significance and extent of the potential effects on archaeological remains, and will be designed to address the specific research agenda set out at Section 2.4.

4.1.4 The following professional standards will apply:

- CIfA 2023 Standard and Guidance for Archaeological Excavation (Chartered Institute for Archaeologists, 2023);
- CIfA 2023 Guidance for Archaeological Monitoring and Recording (Chartered Institute for Archaeologists , 2023);
- CIfA 2014 Guidelines for the Collection, Documentation, Conservation and Research of Archaeological Materials (Chartered Institute for Archaeologists , 2014);
- CIfA 2022 Code of Conduct (Chartered Institute for Archaeologists , 2022); and
- Relevant KCC Fieldwork Guidance Documents including Kent Heritage Conservation Strategy (Kent County Council, 2022).

4.1.5 The above are current guidance and standards documents, and should updated guidance and standards be issued during the course of the Proposed Project, that will also be followed.

4.1.6 National Grid is responsible for compliance with all measures set out in this Onshore OWSI and subsequent SSWSIs and archaeological method statements agreed with the KCCAA. However, for clarity, this Onshore OWSI sets out which activities National Grid will require of its Archaeological Contractor and other contractors in order to comply with these documents; this does not diminish National Grid's responsibility under these documents which are secured pursuant to Requirement 14 within Schedule 3 of the Draft DCO (**Application Document 3.1**).

4.1.7 Prior to archaeological works being carried out, the Archaeological Contractor must develop detailed archaeological method statements for approval by the KCCAA, setting out how the standards set out below will be applied to those works to meet the research

agenda set out in the relevant SSWSI and addressing any site-specific archaeological issues.

4.2 Proposed Methodology and Application

Rapid Identification Survey

4.2.1 A Rapid Identification Survey will be undertaken where reasonably practicable in areas which could not be evaluated before the end of the examination of the DCO due to access not being available, or other elements such as late changes to the Order Limits.

Geophysical Survey

4.2.2 A Geophysical survey may be required in areas where no prior archaeological survey or investigation has been undertaken, unless otherwise set out in a SSWSI or agreed with the KCCAA.

4.2.3 Geophysical survey will comprise the archaeological magnetometry survey of identified areas in order to identify geomagnetic anomalies of potential archaeological origin. This survey would aim to cover the developable extent of these areas, but will exclude any confirmed safeguarded areas, areas of demonstrable past disturbance (e.g. hardstandings and modern building footprints), and any areas where safe access cannot be confirmed.

4.2.4 Geophysical work and reporting will be carried out in line with the standards set out in Section 4.3; the EAC Guidelines for the Use of Geophysics in Archaeology (Schmidt, et al., 2016) and the CIfA Standard and Guidance for archaeological geophysical survey (Chartered Institute for Archaeologists , 2020).

Evaluation Trenching

4.2.5 Evaluation trenching may be required in areas where evaluation has not been practicable in advance of the end of the DCO examination, and provision must be made in the SSWSI for further trenching as appropriate in accordance with Requirement 14 in Schedule 3 of the draft DCO (**Application Document 3.1**).

4.2.6 Evaluation trenching will comprise the excavation of up to a 3% area sample, agreed on a site by site basis, using 50 m by 2 m trenches unless otherwise agreed with the KCCAA. Any sampling strategy will have regard to the results of geophysical survey or walkover and to the extent of prior disturbance.

4.2.7 The area sample to be investigated in any areas that were formerly wooded, subject to Rapid Identification Survey, will be agreed with the KCCAA, through the SSWSIs. Trenching will have regard to the visibility of archaeological remains, the extent of prior disturbance, including that observed in other woodland areas on-site, and the results of archaeological evaluation in adjacent fields.

4.2.8 The purpose of the evaluation is to identify and characterise the nature, extent and significance of specific archaeological foci, within an extensive area. This information will be used to allow more detailed proposals for mitigation to be developed.

4.2.9 Archaeological evaluation trenching and recording will be carried out to the standards set out in Section 4.3, and in accordance with the KCCAA requirements.

Archaeological Monitoring (Watching Brief)

4.2.10 Archaeological monitoring (watching brief), where required, will:

- be used to provide opportunities for archaeological investigation, and recording in circumstances where investigation would otherwise be impracticable;
- be used where archaeological remains of limited value or extent are suspected within a working area; and
- comprise an archaeologist being present, either continuously or on an agreed schedule of inspection-based visits, during intrusive groundworks so that the presence, or absence, of archaeological remains could be confirmed, and any such remains be appropriately recorded.

4.2.11 The risk that archaeological remains might be present will be well established on the basis of previous stages of evaluation, and/or mitigation works, and the areas identified within the SSWSIs. Any site-specific requirements will be set out within the SSWSIs.

4.2.12 The need to monitor construction works will be predictable, and appropriate arrangements for KCCAA inspection visits will be acceptable in most instances.

4.2.13 Where archaeological deposits are encountered, sufficient excavation will take place to allow appropriate records to be compiled, as might be reasonably achieved. Provision will be allowed for access in keeping with health and safety considerations.

4.2.14 Should extensive and/or important/well preserved remains be found, which cannot be addressed within the scope of a watching brief, the requirements for any further excavation will be discussed with the KCCAA.

4.2.15 Archaeological monitoring and recording will be carried out to the standards set out in Section 4.3, and in accordance with the KCCAA requirements.

Strip Map and Sample

4.2.16 Strip, map and sample mitigation will be undertaken, where required, to identify specific archaeological foci within an extensive area of potential, or to expose the spatial characteristics of extensive archaeological landscape elements, such as field systems, prior to selecting locations for targeted sample excavation. This work is to be undertaken within a framework of evidence-based research objectives.

4.2.17 Following initial machine overburden strip (which will be directed and monitored by the Archaeological Contractor), the area will be examined, and a plan of identified and potential archaeological features and deposits prepared at an appropriate scale. This will inform proposals for sample excavation, to be agreed with the KCCAA.

4.2.18 Where necessary to allow construction works to continue, the release of a part of an area may be agreed with the KCCAA once an appropriate agreed level of investigation has been completed. In this situation, areas which have not been released will be clearly demarcated.

4.2.19 Key stages in strip-map-and-sample are:

- careful overburden strip of topsoil and subsoil, using a back-acting excavator, to the archaeological horizon;

- immediate planning (mapping) of the area while the uncovered surface is fresh. The area should be subsequently checked to see if weathering reveals further features and the plan updated as appropriate; and
- sampling, concentrating on established a relative chronology through feature intersections investigations, and by attempting to establish a more precise chronology.

4.2.20 Areas for strip, map, and sample will be identified following geophysical survey, and/or evaluation trenching, and will be agreed with the KCCAA. Individual areas and the justification for their selection will be set out within the SSWSIs.

4.2.21 Following the planning stage, an appropriate sample of identified features will be investigated. Key areas and nodes will be investigated in sufficient detail to understand them both in respect of themselves and also in relation to their surroundings. This work will be focused on adding to the spatial, chronological, functional and environmental context of the investigated area drawing on the standards set out in Section 4.3, and in accordance with the KCCAA requirements. Any site-specific variations will be set out within the SSWSIs, and/or agreed with the KCCAA.

4.2.22 This requirement to sample and record identified features will be continually monitored during the course of fieldwork, and amended according to its effectiveness in meeting research objectives. In particular, consideration of strip, map, and sample operations will be discussed with the KCCAA, with a view to extending these operations where significant archaeological remains have been observed, or scaling back operations where the potential presence of archaeological features is demonstrably low, based on:

- identified prior truncation/disturbance;
- absence of observed features; or
- confirmation of prior survey results which suggest poor survival of archaeological features.

4.2.23 Any decision to scale back the scope of strip, map, and sample mitigation will only be undertaken after agreement of the KCCAA has been confirmed.

4.2.24 Following completion of archaeological investigation to the satisfaction of the KCCAA, the relevant area, or agreed parts thereof, will be released to the contractor so that construction works may proceed.

Set-Piece Archaeological Excavation

4.2.25 Set-piece excavation will be undertaken where evaluation has identified the extent, and character of significant archaeological remains, allowing for a definitive investigation area, sampling and finds recovery policy to be defined.

4.2.26 The individual defined areas identified for set-piece excavation will be set out in the relevant SSWSI. This will include provision to extend areas if important archaeology continues beyond the defined extent.

4.2.27 Set-piece excavation and recording will be undertaken to the standards set out at Section 4.3, and in accordance with the KCCAA requirements. Any site-specific sampling requirements will be set out within the SSWSIs.

Geo-Archaeological Modelling

4.2.28 A programme of geoarchaeological investigation, assessment and analysis may be undertaken where previous evaluation has identified a potential for important palaeoenvironmental data to be present. The scope of geoarchaeological investigation will be agreed with the KCCAA and will comply with best practice and guidance published by Historic England (Historic England, 2015).

4.3 Standards for Archaeological Work

4.3.1 The standards set out below draw upon, and should be used in conjunction with, the KCC fieldwork requirement documents, and the national and regional excavation standards.

4.3.2 A parish code number will be obtained from the County HER in advance of each phase of the works, and a unique site code will be assigned as agreed with the KCCAA. All parts of Site Archive, including finds, samples, plans, photographs, and excavation paperwork will be marked with this number. It will be printed on the cover of all reports and used as the accession number for deposition of the archive.

Rapid Identification Survey

4.3.3 Areas will be walked systematically on regular transects, typically at 25 m intervals with the aim of identifying and recording any surviving earthwork features, or structural remains. Each feature or observation will be given a unique record number, and will be recorded in plan and by photography. A record will also be made of any artefactual material observed, although modern material will not normally be retained.

Geophysical Survey

4.3.4 It is anticipated that any survey required will be carried out using an appropriate instrument. Readings will be taken every 0.25 m along lines 1 m apart.

4.3.5 The survey will be carried out using a grid system accurately tied in with the Ordnance Survey (OS) National Grid. Any variations to the survey area set out within the SSWSIs caused by crop growth, or ground conditions will be agreed with the KCCAA.

4.3.6 A record will be made of surface conditions, and of possible sources of modern geophysical interference that may have a bearing on subsequent interpretation of field data. Any areas where it is considered unsafe to work will be excluded from the survey.

4.3.7 If any problems are encountered during the geophysical survey these will be reported to National Grid.

Machine Overburden Strip

4.3.8 For all areas identified as requiring intrusive archaeological work in the SSWSIs, removal of topsoil, overburden, to the first significant archaeological horizon will be undertaken by a back-acting excavator fitted with a wide (1.8 m) toothless ditching bucket, under the continuous supervision of the Archaeology Contractor with the authority to halt and direct machine excavation.

4.3.9 Spoil will be temporarily stockpiled on-site at an identified location, at a safe distance from the stripped areas, and other constraints. Topsoil, subsoil, and archaeological

deposits will be kept separate during excavation, to allow for sequential backfilling of excavation. Topsoil will be examined for archaeological material.

4.3.10 Areas stripped for, or under, archaeological investigation must be clearly marked and identified to construction contractors, so that the area is not tracked over, or otherwise disturbed, until the area is clear of archaeological remains. The supervising site archaeologist will confirm to the contractors when an area has been released from archaeological control, and vehicles can track over the specified area.

4.3.11 Once the first archaeological horizon has been revealed and is exposed to a satisfactory condition, excavation of any archaeological deposits identified will proceed by hand, to the standards set out below, unless specifically agreed with the KCCAA, or to any site-specific requirements set out in the SSWSIs. If colluvial or alluvial deposits are identified sealing earlier archaeological horizons, the potential for machine stripping of these deposits will be discussed with the KCCAA, once any archaeological features cutting them have been fully excavated and recorded, and it has been established that these deposits are otherwise archaeologically sterile.

4.3.12 Following completion of archaeological investigation to the satisfaction of the KCCAA, each trench, or excavation area, will be backfilled with the spoil and compacted by machine to level fill unless the area is required to be left open as part of further archaeological mitigation or construction works.

Archaeological Hand Excavation

4.3.13 Excavation of all archaeological deposits will be done by hand unless it can be shown there will not be a loss of evidence by using a machine.

4.3.14 Archaeological features will be hand cleaned prior to excavation, to provide accurate definitions. For linear features, such hand cleaning will be targeted at sample excavation points. Deposits interpreted as natural subsoil should be tested by hand, or machine excavation to determine the validity of this interpretation. Where features are interpreted as natural (e.g. tree throws), a percentage of these features, agreed with the KCCAA, will be hand excavated to establish the accuracy of the interpretation.

Archaeological Evaluation

4.3.15 In evaluation trenching, there is the presumption of the need to cause minimal disturbance to the site; and that significant archaeological features (e.g. building slots or postholes) should be preserved intact even if fills are sampled:

- for linear features, 1.00 m wide slots (min.) will be excavated across their width.
- for discrete features (e.g. pits), 50% of their fills will be sampled.
- any natural subsoil surface revealed will be hand cleaned, and examined for archaeological deposits and artefacts. Sample excavation of any archaeological features revealed may be necessary in order to gauge their date and character.
- where extensive occupation deposits or layers are identified, these will be sampled through the use of test pits, as agreed with the KCCAA, to determine their date and character, and to determine whether earlier features are sealed by these deposits.

4.3.16 Metal detecting will be conducted during evaluation trenching by a named and experienced detectorist, before trenches are opened, during the excavation of features within the trenches, and of the spoil.

Archaeological Excavation

4.3.17 Features will be excavated in accordance with the following sampling strategy:

- features which are, or could be, interpreted as structural must be fully excavated.
- post holes and pits must be examined in section. Full excavation may be appropriate for specific problem-solving, complex depositional sequences and finds recovery. Full excavation may also be appropriate if pits or postholes are small.
- fabricated surfaces (e.g. yards and floors) must be fully exposed and cleaned, and representative sections excavated, to determine their construction and whether they seal earlier deposits. Where earlier features are suspected of underlying surfaces, the surface will be hand-lifted once it has been fully recorded. The collection of spatially distinct samples will be considered in order to investigate the use/function of an area and if different activity zones can be identified.
- all burial deposits and associated remains will be subject to 100% excavation and recorded in accordance with an agreed methodology. Spatially distinct samples from the head, torso and feet will be taken in accordance with KCCAA requirements and best practice.
- other features must be sufficiently examined to establish, where possible, their date function. In general 50% of the representative non-structural linear cut features; 10% of the fills of substantial linear features (e.g. ditches) in order to establish the feature's character, date and morphology and to provide information on activities taking place in close proximity to the feature. These samples may be varied with the agreement of the KCCAA to reflect specific site conditions observed during excavation.
- any stratified layers should be subject to hand excavation in 2.5 m or 1.0 m systematic, and gridded squares on the basis of the complexity and extent of the layers. The details of which will be agreed with the KCCAA and set out within SSWSIs where required.
- where complex sequences are observed during the excavation, an amended excavation strategy will be agreed with the KCCAA.

4.3.18 The sampling excavation strategy will be reviewed continuously throughout the course of fieldwork and, if necessary, amended in order to take account of changing circumstances and understanding. Any changes or amendments will be agreed in advance of implementation with the KCCAA and confirmed in writing. For any complex remains, a sampling strategy will be discussed and agreed with the KCCAA.

4.3.19 Where insufficient dating material or information has been retrieved from a partially sectioned feature, further sampling may be undertaken, subject to consideration of residuality, or other factors that might limit the integrity of archaeological data, with reference to the research objectives, and in consultation and agreement with the KCCAA. This may include bulk or column sampling for scientific dating, and/or environmental analysis (e.g. grain or faunal species) which may provide broad dates.

4.3.20 Guidelines for developing site-specific sampling strategies will be set out in the SSWSIs. The sampling strategy will be kept under review during the excavation work, and will consider the following:

- a robust spatial framework of excavation to provide an understanding of the distribution of past activities across the investigation area, including any ‘special’

deposits and any patterning in artefact distribution. Such a framework will consider the inter-relationship of major features.

- the investigation of the intersections of features of archaeological date to obtain a phasing of the site.
- structural remains and other areas of significant and specific activity (domestic, industrial, religious, hearths, 'special'/patterned deposits etc.) will be excavated, and recorded to a degree whereby their extent, date form, function and relationship to other features and deposits can be established.

4.3.21 Metal detector searches must take place during excavation, including the scanning of areas before they are stripped. Detecting must be undertaken by named, experienced metal detector users, with the SSWSI including reference to their relevant experience. Detecting equipment will be high specification.

Survey

4.3.22 Surveying will be done using a survey-grade Global Positioning System (GPS).

4.3.23 The site grid will be accurately tied into the OS National Grid, and located on the 1:2500 or 1:1250 map of the area. Elevations will be levelled to the Ordnance Datum.

Recording

4.3.24 A full and proper record (written, graphic and photographic, as appropriate) will be made for all work in line with the standards set out by the KCCAA.

4.3.25 A register of all trenches, features, photographs, survey levels, small finds and human remains will be kept.

4.3.26 Unique context numbers will be issued for all features, layers and deposits. Each will be individually documented on a context sheet and drawn in section and plan:

- plans of any archaeological features on-site are to be drawn at 1:20, or 1:50 depending on the complexity of the feature being recorded.
- sections should be drawn at 1:10, or 1:20 depending on the complexity of the feature being recorded.
- all levels should relate to Ordnance Datum.
- a photographic record of the work will consist of digital images (minimum file size of 6MP) taken on a high-resolution digital camera.
- photographs will include general site shots and photographs of specific features. Photographs will include a scale, north arrow, site code and feature number (where relevant), and will be listed on the photograph register.

Environmental Sampling

4.3.27 The on-site sampling policy will be inclusive, as the significance of individual features may not be fully understood, until wider patterns of spatial distribution and phasing are understood. As set out in the general methods above, arrangements for the processing of bulk samples taken for the recovery of environmental materials should be confirmed. The minimum bulk sample size will normally be 40 litres or 100% of the deposit if the deposit does not amount to 40 litres, though the final sampling and discard policy for individual sites will be agreed in consultation with the KCCAA, and the Regional Scientific Advisor, and set out within the SSWSI. Processing of samples should be undertaken while evaluation excavations are being undertaken in order that information can be fed back and inform the ongoing strategy.

4.3.28 Archaeological deposits will be sampled systematically in bulk samples. All samples will be collected from the fills of cut features, and from any other securely stratified deposits that have the potential to provide environmental or economic information, such as occupation layers or material accumulating on use surfaces. Particular emphasis will be placed on contexts that may supply material suitable for scientific dating of potential early medieval and prehistoric features. Decisions on sampling must also take account of stratigraphic factors, and consider the opportunity to employ chronological, and spatial controls, in the recovery of samples in order to generate environmental information of sufficient quality to meet the research objectives.

4.3.29 Provision will be made for column and other appropriate samples to be taken for geoarchaeological assessment, and analysis as appropriate and in line with technical guidance including Historic England guidance (Historic England, 2016). Due consideration will be given to the collection of samples suitable for microfossil analysis, and other specialised analysis from suitable deposit sequences, that might inform the pattern of changing environmental conditions over time. Waterlogged and cess deposits will be specifically sampled for microfaunal and invertebrate analysis. Bulk samples will also be taken from any waterlogged deposits present for assessment of organic remains. Any organic artefacts that are retrieved during the excavation will be stored in appropriate conditions, and assessed by a qualified archaeological conservator.

4.3.30 Industrial residues and waste from craft, and manufacturing processes will also be routinely sampled in line with guidance provided by Historic England (Historic England, 2016).

4.3.31 If required, a detailed site-specific sampling policy in line with the KCC regional, and national guidance will be set out in the individual SSWSI in consultation with the Historic England Regional Advisor for Archaeological Science (Southeast). This will detail specific categories of material that are of interest for the individual sites, and identify a programme of work to support the research objectives. This will be revised as appropriate throughout the excavation and post-excavation phases.

Artefact Recovery and Conservation

4.3.32 The recovery of material that can adequately date major archaeological phases is a key requirement. It is recognised that the incidence of artefacts may limit the quality of datable assemblages, and measures for scientific dating are also set out below. However, artefacts remain a key source of dating information.

4.3.33 All finds will be collected and processed, unless variations are agreed with the KCCAA during the course of excavation.

4.3.34 Ceramic finds should be processed, and initial assessment undertaken for dating and significance, concurrently with the excavation, to allow immediate assessment and input into decision-making.

4.3.35 Bulk finds such as pottery and animal bone will normally be collected by context. Where it is appropriate and following additional instruction, enhanced recovery techniques and sampling strategies for the recovery, and recording of waterlogged wood and timber, will be set out in respect of specific sites in the SSWSIs as appropriate.

4.3.36 Finds will be temporarily stored on-site and removed from site to a secure location as required. Waterlogged organic finds, such as wood and leather, should be removed from site on the day that they are excavated and transferred to a suitable location with facilities to maintain them without degradation of the material.

4.3.37 Finds and samples will be exposed, lifted, cleaned (with the exception of organic remains, which will be considered on a case-by-case basis), conserved, marked, bagged, boxed and stored in line with the standards in:

- Watkinson & Neal (1988) First Aid for Finds (Watkinson & Neal, 1987);
- Chartered Institute for archaeologists (2014) Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (Chartered Institute for Archaeologists , 2014);
- English Heritage (1995) A Strategy for the Care and Investigation of Finds (English Heritage, 1995);
- Historic England (2017) Organic Residue Analysis and Archaeology (Historic England, 2017); and
- The requirements of the recipient museum/archive (the receiving museum/archive) will be identified in the relevant SSWSI.

4.3.38 A discard policy acceptable to the appointed KCC Archive accepting the archive will only be implemented following quantification, assessment, and recommendation from artefactual and environmental specialists. Certain classes of material, such as post-medieval pottery and building material, may be discarded after recording if a representative sample is kept, but no finds will be discarded without the prior approval of the KCCAA and the KCC Archive.

4.3.39 Where finds require conservation, this will be done in accordance with relevant guidelines of the Institute for Conservation.

Scientific Dating

4.3.40 Achieving coherent intra and inter-site chronologies across all phases of activity is a key objective, as this may help resolve problems in the identification of cultural activity during period when ceramics were not generally available to communities, or where features do not contain readily datable artefacts. A strategy for the selection of samples for scientific dating will be set out for each site in the relevant SSWSI, taking into consideration statistical procedures designed to enhance the accuracy of site chronologies.

4.3.41 Samples of material suitable for scientific dating techniques including AMS C14 dating, archaeomagnetism (for example, charred seeds or in situ burnt clay from appropriate contexts), or thermoluminescence will be collected where available in accordance with

SSWSIs. Where a specialist may be required to visit the site and collect samples this will be identified at the earliest opportunity.

4.3.42 Scientific dating will be a significant consideration during the post-excavation assessment and will inform the updated Proposed Project design. The assessment of the chronology within a Bayesian framework should be considered if significant remains or sequences are identified.

4.3.43 Scientific dating, undertaken concurrent with the excavation fieldwork, may be required to inform levels of sampling of certain features or structures, such as wooden trackways. If there is the potential for significant waterlogged wooden remains to be found, a wood specialist may be required on site to record and sample remains and dendrochronology specialists be used to support the dating of remains where necessary.

Treasure

4.3.44 Any items which are recovered which could be deemed as treasure will be subject to the provisions of the Treasure Act 1996, the Treasure (Designation) Order 2002, and the Treasure (Designation) (Amendment) Order 2023. Such material will normally be removed from site to a secure location, to be stored in appropriate conditions, at the end of the working day on which it is found. In addition to the statutory authorities, the relevant Portable Antiquities Officer will be informed.

5. Procedures for Unexpected Archaeological Discoveries

5.1 Human Remains

5.1.1 Should human remains be discovered during the course of any archaeological fieldwork being undertaken for the Proposed Project, the remains will be covered and protected and left in-situ in the first instance, in accordance with current best practice. Should human remains be discovered, all works within the vicinity of the relevant area of the site will immediately stop. The Archaeological Contractor will notify the ACoW and the H.M. Coroner with details of the remains immediately. The removal of human remains will only take place in accordance with a licence from the Ministry of Justice and under the appropriate Environmental Health regulations and the Burial Act 1857 (HM Government, 1857).

5.2 Unanticipated Significant or Complex Archaeological Discoveries

5.2.1 In the event of unanticipated significant or complex archaeological discoveries being made during the course of any archaeological fieldwork being undertaken for the Proposed Project, the Archaeological Contractor will notify National Grid and the ACoW immediately. The ACoW will liaise with the KCCAA in order to determine an appropriate strategy for the excavation and recording of any such remains, and will liaise with the Archaeological Contractor and National Grid to estimate the additional time and resources needed to complete the archaeological work should the remains require investigation beyond the scope set out within this Onshore OWSI and the SSWSI.

5.3 Unexpected Archaeological Discoveries During Construction

5.3.1 In the event of unexpected archaeological discoveries being made during construction activities where no archaeological mitigation works are being undertaken, National Grid will notify the ACoW immediately. It is anticipated that all constructions works within the vicinity of the unexpected remains will be suspended until completion of any required archaeological excavation and recording is completed in that area.

5.3.2 An additional SSWSI may be required to set out the methodology for the recording of the archaeological remains, and to allow adequate time within the construction programme. The ACoW will liaise with the KCCAA in order to determine whether the remains require further investigation, and to estimate the additional time and resources needed to complete the archaeological investigation should it be required.

6. Reporting and Publication

6.1 Overview

6.1.1 All reporting, publication and archiving will be undertaken in accordance with this Outline Onshore OWSI, the SSWSIs and will follow relevant KCCAA requirements as well as archaeological standards and guidance, including but not limited to, those published by CifA (Chartered Institute for Archaeologists, 2023).

6.2 Interim Report

6.2.1 Interim reports will be prepared by the Archaeological Contractor for each stage of evaluation and mitigation works, and submitted to the ACoW and KCCAA. The timings for these interim reports will be agreed with the ACoW and the KCCAA prior to the start of works and set out within the SSWSI.

6.3 Fieldwork Report

6.3.1 Fieldwork reports will be required following the completion of each stage of archaeological evaluation and mitigation fieldwork.

6.3.2 A fieldwork report will be submitted in draft within four weeks of the completion of each stage of archaeological evaluation fieldwork. This timescale may be flexible subject to approval by the ACoW and the KCCAA.

6.3.3 If the results of the archaeological mitigation works are decided by the ACoW and the KCCAA to not be significant enough to warrant detailed analysis and publication, then a fieldwork report will be produced.

6.3.4 The content and scope of each fieldwork report will be dependent on the findings, but typically will include the following:

- a Quality Assurance sheet detailing as a minimum title, author, version, date, checked by, approved by;
- OASIS Report Form;
- a non-technical summary;
- site location drawing;
- archaeological and historical background;
- methodology;
- aims and objectives;
- results (to include full description, assessment of condition, quality and significance of the remains);
- statement of potential with recommendations;

- a statement of the significance of the results in their local, regional and national context cross referenced to relevant research frameworks;
- current and proposed arrangements for archive storage and curation (including recipient museum details);
- references;
- general and detailed plans showing the location of the survey accurately positioned on an OS base map (to a standard scale);
- detailed plans and sections illustrating archaeological features (to a standard scale);
- detailed drawings at appropriate scale(s) and format to sufficiently illustrate the results of the topographic survey;
- colour photographic plates illustrating the site setting, work in progress and discovered archaeological remains;
- a complete matrix for each archaeological area, if appropriate;
- a cross-referenced index of Proposed Project archive;
- Site Selection Strategy; and
- Data Management Plan.

6.3.5 A digital .pdf copy (complete with illustrations and plates) of the completed draft report will be submitted to the ACoW and the KCCAA for comment. In finalising the report, the comments of the ACoW and the KCCAA will be taken into account.

6.3.6 A digital record of the final report shall be submitted to the ACoW and the KCCAA, containing image files in JPEG or TIFF format, digital text files in Microsoft Word format, and illustrations in AutoCAD format or ArcGIS shapefile format. A fully collated version of the report shall be included in .pdf format.

6.4 Post-Excavation Assessment Report and Publication

6.4.1 If the results of any archaeological fieldwork are of sufficient significance to warrant publication, the report may take the form of a ‘Post-excavation Assessment Report’ and will include an Updated Project Design (UPD) in accordance with the guidance and standards set out in Historic England’s Management of Research Projects in the Historic Environment (Historic England , 2015).

6.4.2 The Post-excavation Assessment Report and UPD will, as a minimum, present:

- a summary of the Proposed Project background, original aims and objectives;
- an integrated description of the results by period for each area of archaeological mitigation;
- a quantification of each artefact and ecofact type recovered during the mitigation works;
- an assessment of how the results of the archaeological mitigation address the original and any new research objectives;
- a proposal for a revised set of research objectives; and
- recommendations for further analysis and publication.

6.4.3 If detailed analysis and publication are recommended by UPD, a stage of post-excavation analysis and publication will be required. The post-excavation analysis stage of the Proposed Project will comprise the detailed quantification, analysis and reporting of the recorded archaeological remains (contextual records), artefacts and ecofacts recovered during the programme of archaeological mitigation. The post-excavation analysis will be undertaken by the Archaeological Contractor supported by external specialists as appropriate.

6.5 Publication

6.5.1 If significant results are obtained and it is likely that further stages of archaeological work will be required (i.e. additional watching brief areas); or, if investigation of a single (or several closely related sites) is undertaken over several phases of archaeological work; publication shall be deferred until such time as the archaeological works are substantially complete.

6.5.2 The format of any publication shall be commensurate with the significance of the archaeological results and will be agreed with the ACoW and consulted on with the KCCAA. Online publication formats as well as traditional publication formats will be considered.

6.5.3 If the results merit it, a popular publication report and illustrated document explaining the results in layman's terms should be produced. The popular report should inform the non-expert audience about the discoveries and their significance in an accessible manner. Popular booklets may be produced both for children and for adult audiences.

6.5.4 Any identified publication should also aim to draw on the results of relevant previous archaeological investigations undertaken within and adjacent to the Proposed Project, to present a coherent and comprehensive record of the archaeological resource within its wider landscape view.

6.6 OASIS

6.6.1 At the start of the site work (immediately before each stage of archaeological fieldwork commences) an OASIS online record will be initiated, and key fields will be completed on Details, Location and Creators forms.

6.6.2 The final OASIS record shall be included in the fieldwork report and/or post-excavation assessment report.

6.7 Archive and Data Management

6.7.1 Prior to the start of each stage of archaeological fieldwork, the Archaeological Contractor will contact the recipient museum/archive to determine the requirements for the preparation and deposition of the physical archive and finds and agree any accession numbers.

6.7.2 The archive will be prepared in accordance with the CIfA guidelines, including the Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives (Chartered Institute for Archaeologists , 2020), and any Kent County Council requirements.

6.7.3 The Archaeological Contractor will compile a Data Management Plan and Selection Strategy in line with CIfA guidelines (Chartered Institute for Archaeologists , 2020) and include it in their SSWSI.

6.7.4 The digital archive must be deposited with a Trusted Digital Repository, such as the Archaeological Data Service and it is anticipated that the repository will have in-house Data Management Plans to allow for the long-term preservation of the digital archive data, including plans for data back-up and migration to new digital formats as they emerge.

7. Site Specific Written Scheme of Investigation (SSWSI) Requirements

7.1 General Approach

7.1.1 The Archaeological Contractor will be responsible for the production of SSWSIs prior to the start of each stage of archaeological evaluation and mitigation fieldwork.

7.1.2 The SSWSIs will be drafted in accordance with the principles and methods set out in this Onshore OWSI. The Archaeological Contractor will be responsible for the delivery of the archaeological evaluation and mitigation programme in accordance with the SSWSIs, and this responsibility will include all on-site and off-site archaeological works and recording.

7.1.3 The SSWSIs will be prepared in consultation with the ACoW and approved by the KCCAA prior to the start of works.

7.1.4 The SSWSI will be prepared in accordance with current standards and guidance, and should include the following sections as a minimum:

- a statement on the technical, research and ethical competences of the Proposed Project team, including relevant professional accreditation;
- site location (including map) and descriptions;
- context of the Proposed Project;
- geological and topographical background;
- archaeological and historical background;
- general and specific research aims of the Proposed Project, with reference to Regional Research Frameworks;
- methodology;
- collection and disposal strategy for artefacts, ecofacts, and all paper, graphic and digital materials (including Data Management Plan and Selection Strategy);
- arrangements for immediate conservation of artefacts;
- details of backfilling;
- post-fieldwork assessment and analysis of project data;
- report preparation (including details of the section headings);
- publication and dissemination proposals, as required;
- copyright;
- details of finds storage;
- programme and staffing;
- Health and Safety considerations;

- environmental protection considerations; and
- monitoring procedures.

8. Monitoring Process

8.1 Monitoring

8.1.1 ACoW will liaise with the Archaeological Contractor to monitor progress and compliance with the requirements of this OWSI and approved SSWSIs.

8.1.2 This will include (but not be limited to):

- monitoring of all aspects of on-site archaeological fieldwork; and
- monitoring of the installation and removal of protective measures, such as temporary fencing, and at sites where preservation of archaeological remains is required.

8.1.3 The ACoW will act as a coordinator in respect of access and monitoring arrangements with the KCCAA. This will include oversight of engagement between the Archaeological Contractor and the relevant stakeholders, including the Regional Science Advisor for Historic England, to ensure the timely provision of on-site advice to the fieldwork team.

8.1.4 The archaeological fieldwork will be subject to ongoing monitoring by the ACoW, who will have unrestricted access to the sites, site records, or any other information as may be required. The work will be inspected to ensure that is it being carried out to the required standard and that it will achieve the desired aims and objectives.

8.2 Stakeholder and Statutory Roles

8.2.1 Implementation of the Onshore OWSI and SSWSIs will also be monitored by the KCCAA.

8.2.2 Site monitoring meetings will be held as necessary throughout the archaeological programme to allow implementation of the works to be monitored to ensure adherence to the approved SSWSIs, effective decision making where required and to support timely ‘sign-off’ of archaeological completion.

8.3 Site Meetings

8.3.1 It is anticipated that monitoring meetings will be held as necessary throughout the archaeological programme to allow implementation of the works to be monitored to ensure adherence to the approved SSWSIs, effective decision making where required and to support timely ‘sign-off’ of archaeological completion.

8.3.2 Attendees will normally include, but not be limited to the following, as required:

- ACoW;
- Archaeological Contractor; and
- KCCAA.

8.4 Progress Reports

8.4.1 The Archaeological Contractor will prepare weekly progress reports for the duration of the archaeological works. The reports will be issued to the ACoW who will distribute them to National Grid and the KCCAA. The progress reports will include as a minimum:

- general progress and summary of fieldwork results;
- programme and resources lookahead;
- site-specific issues (access/constraints etc.); and
- SHE issues.

8.5 Approval and Sign-Off of Archaeological Mitigation Sites

8.5.1 Site works that have been completed (confirmed as completed during a site meeting and agreed between the ACoW and the KCCAA) will be subject to a sign-off procedure.

8.5.2 The Archaeological Contractor will submit a completion statement to the ACoW who will distribute it to National Grid. The ACoW will also submit the completion statement to the KCCAA as confirmation that the relevant works have been completed in compliance with the Onshore OWSI and relevant SSWSI. The KCCAA will have final approval and sign off on all archaeological evaluation and mitigation works.

9. Public Outreach and Community Engagement

9.1 General Approach

9.1.1 A programme of public outreach and community engagement will be developed prior to the start of works in liaison with the KCCAA. This will be set out in the Archaeological Contractor's SSWSI.

9.1.2 The aim of public outreach and community engagement is to collaboratively interpret and communicate the results of the archaeological mitigation works to a wide audience, including local communities directly impacted by the Proposed Project (that is, people living and working with the locality of the Proposed Project), and wider regional audiences where appropriate.

9.1.3 The objective of the public outreach and community engagement will be to provide information to a wide variety of audiences, ranging from those with a strong interest in archaeology and heritage, to those with no specific involvement.

9.1.4 The programme of public outreach and community engagement may incorporate site-based activities, initiatives undertaken during ongoing excavations, and activities undertaken throughout the post-excavation phase. Outreach activities, identification of the target audience, outreach objectives, and media strategy will be set out in the Archaeological Contractor's SSWSI.

10. General Health and Safety Requirements

10.1.1 National Grid is responsible for providing information on any relevant constraints within the Order Limits, including, but not limited to, recently conducted service and utility searches (for both buried and overhead services) and Unexploded Ordnance Survey (UXO) reports.

10.1.2 The Archaeological Contractor shall prepare Risk Assessment(s) and a project specific Health and Safety Plan and submit these to National Grid for approval prior to starting work on site. These should include staff CVs which should detailed the Health and Safety qualifications held by the Archaeological Contractor site team, including Site Managers Safety Training Scheme (SMSTS) and Site Supervisors Safety Training Scheme (SSSTS).

10.1.3 The Archaeological Contractor's Risk Assessment(s) and project Health and Safety Plan shall make reference to relevant health and safety guidance and good practice.

10.1.4 National Grid will provide the Archaeological Contractor with the results of recently conducted service and utility searches; however, the Archaeological Contractor shall be responsible for identifying any buried or overhead services and taking the necessary precautions to avoid damage to such services, prior to and during the fieldwork. The Archaeological Contractor will ensure that any individual scanning for buried services is both competent and appropriately trained in the use of a CAT and genny.

10.1.5 The Archaeological Contractor shall at all times maintain a safe working distance from the overhead and buried services/utilities. In addition, the Archaeological Contractor shall be responsible for any requirements with regard to work in the vicinity of watercourses.

10.1.6 All site personnel will wear personal protective equipment (PPE) as defined by the Archaeological Contractor’s approved risk assessment undertaken in accordance with mandatory requirements. Any visitors to the investigations will require a site induction in accordance with the Archaeological Contractor’s Health and Safety requirements and will have read the appropriate Archaeological Contractor’s site-specific Risk Assessment and Method Statement. The Archaeological Contractor will ensure that any visitors to the investigations are equipped with suitable PPE prior to entry to the site. All equipment that is used in the course of the fieldwork must be 'fit for purpose' and be maintained in a sound working condition that complies with all relevant Health and Safety regulations and recommendations.

10.1.7 The Archaeological Contractor will assure the provision and maintenance of adequate, suitable and sufficient welfare and sanitary facilities at appropriate locations for the duration of the works. The locations for the temporary site welfare facilities and vehicle parking will be agreed with National Grid and the ACoW prior to the start of the works. Facilities, roles and responsibilities shall adhere to the provisions of relevant Health and Safety Executive guidance.

10.1.8 All site personnel will familiarise themselves with the following:

- site emergency and evacuation procedures;
- the site’s health & safety coordinator;

- the first aider; and
- the location of the nearest hospital and doctor’s surgery.

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